

Parker's New Ethylene Propylene Material, E1514-70

Chloramine Resistant Sealing Material

Excellent Resistance

Parker is launching a new chloramine resistant EPDM called E1514-70. This new material offers improved resistance to chloramine degradation and swelling, providing a significantly longer seal life. This improvement can reduce potential warranty claims when used in plumbing fixtures and potable water handling equipment where chloramine is present.

The Need For Change

As technology advances, we change and promote a safer, more efficient way to live. This progression however, directly effects existing standards and methods, forcing them to acclimate to a new environment, creating a new industry need.

In the consumer industry, water treatment facilities are using chloramine as a primary means to disinfect potable water in lieu of free chlorine. Chloramine is less reactive to organic material in water than chlorine, therefore producing much lower concentrations of disinfection by-products (which may have adverse health effects at high levels) in the distribution system. Chloramine also provides better protection against bacterial re-growth in systems with large storage tanks and dead-end water mains.

On the downside, chloramines are more aggressive to elastomers than free chlorine at equivalent concentrations. Existing seal materials can be attacked by chloramine, causing degradation, disintegration and swelling. These property changes can cause seal failure, creating performance issues and warranty claims for water handling equipment manufacturers.

The standard ASTM D6284 test for rubber properties was conducted on NSF-certified elastomer compounds, including existing Parker formulations, new Parker chloramine-resistant formulations and competitor formulations. Based on the test results, Parker's chloramine-resistant materials provide significantly longer useful seal life compared to all others tested.

Test Report on Compound E1514-70 to M3DA 710 A26 B36 EA14 F19 G11 G21 Z1		
	Z1 = Elongation at Break = 125% min	
	Z2 = Compression Set on O-Rings: 70 hrs @ 150°C	
	Compound E1514-70	Spec.
Originals		
Hardness, Durometer, Shore 'A', points	74	70+/-5
Tensile Strength, Mpa	14	10 min
Elongation, % (Z1)	152	125 min
Heat Aged 70 hrs @ 150°C		
Change in Hardness, pts	+1	+10 max
Change in Tensile Strength, %	+1	-20 max
Change in Elongation, %	-12	-20 max
Compression Set 22 hrs @ 150°C		
Compression Set, % (Plied Slabs)	9	25 max
Compression Set 70 hrs @ 150°C on O-Rings (Z2)		
1.78 mm C/S	28	45 max
2.62 mm C/S	24	45 max
3.53 mm C/S	29	45 max
5.33 mm C/S	29	45 max
Aging in Distilled Water 70 hrs @ 100°C		
Change in Volume, %	+2.8	+/-5
Tear Strength		
Die 'B' (kN/m)	40	17 min
Die 'C' (kN/m)	34	17 min
Low Temperature Brittleness		
Non-Brittle after 3 min @ -55°C	Pass	Pass
Chloramine resistance: 50 ppm Chloramine Solution Aged (ASTM D6284) using 25X50/x1.02mm test slab @ 70°C for 8 weeks **		
Change in Volume, %	27.8	record
Change in Hardness, pts	-9	record
Chlorine resistance: 50 ppm Chlorine Solution Aged (ASTM D6284) using 25 x 50 x 1.02 mm test slab @ 70°C for 8 weeks **		
Change in Volume, %	5.9	record
Change in Hardness, pts	-5	record

**Testing performed by third party

Tests performed on ASTM type specimen
Values may be different for other type specimen

Product Features:

- No internal lubrication
- Zero degradation and minimal swelling
- Low compression set
- Compound is globally available
- NSF approved